

# Great Lakes Basin

## ECOSYSTEM TEAM

### Region 3 RMT

February 10, 2003

*Rich Greenwood – Team Leader*  
*USFWS Liaison to USEPA*  
*Great Lakes National Program Office*



# BRIEFING FOCUS

- Overview of the Great Lakes Ecosystem
- What is the  
Great Lakes Basin Ecosystem Team
- The Ongoing Evolution of Our Team  
Successes, Challenges ... what lies ahead
- Opportunities for feedback ... and future steps

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# Two Nations ...



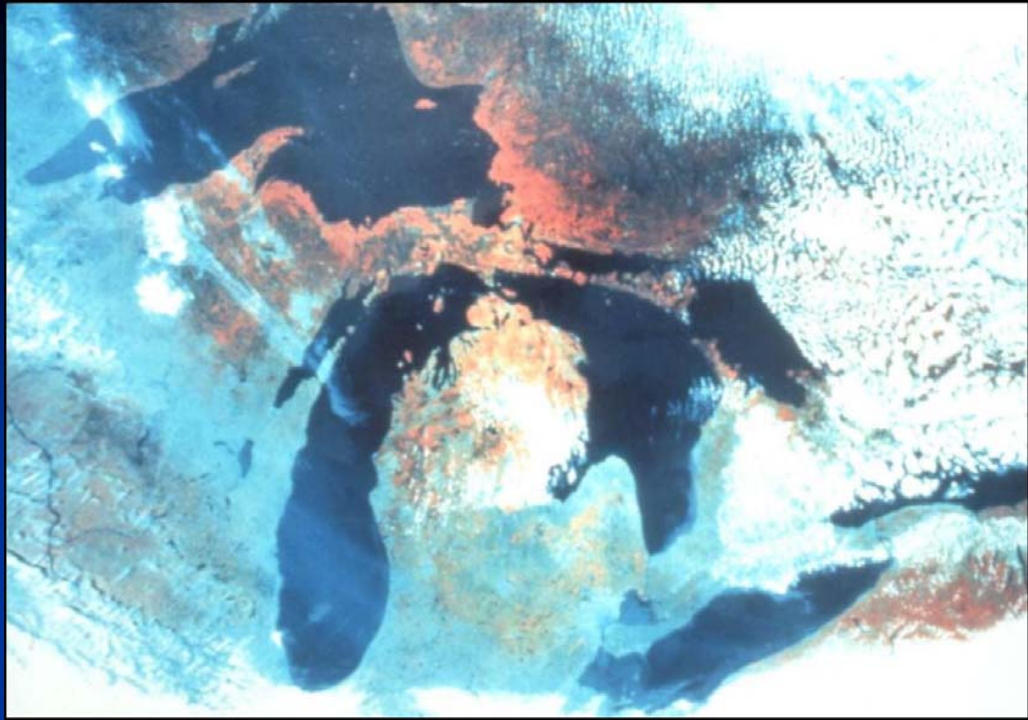
# Eight Great Lakes States....



# Two Great Lakes Provinces



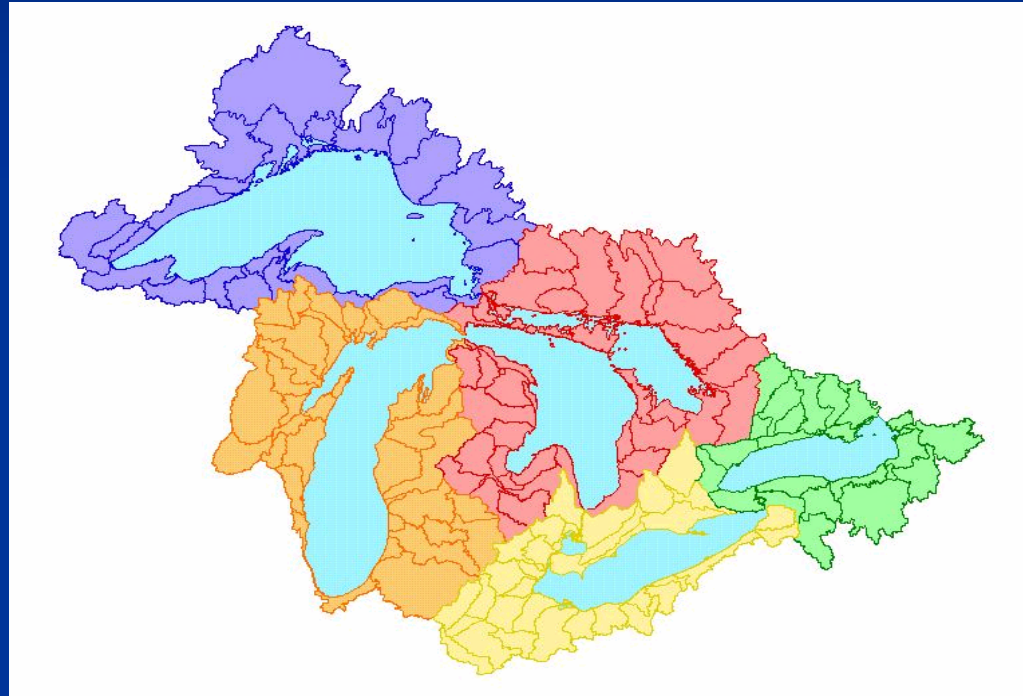
## Great Lakes Overview



95% of the U.S. surface fresh water

20% of all earth's surface fresh water

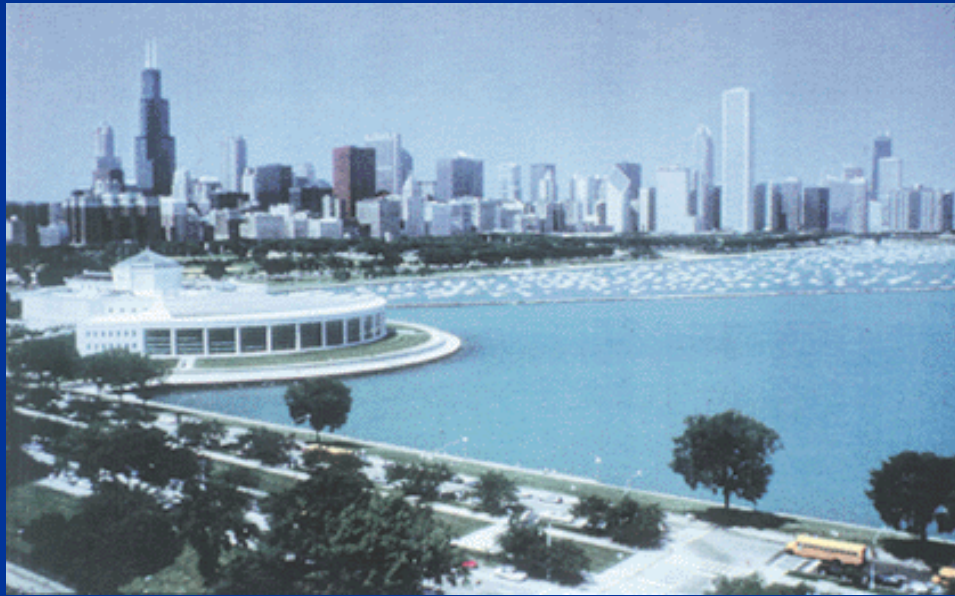
East to west ... the Great Lakes  
stretch 1,000 miles across the  
heartland of the U.S. and Canada



Almost 200,000 square miles in the watershed

# Great Lakes Overview

**The Great Lakes Watershed is home to over 40 million people**



**Over 25 million in the U.S. depend on the Lakes for their drinking water**



# Great Lakes Overview

The watershed contains 20% of all U.S.  
timberland



... and 20% of all U.S.  
manufacturing



## Great Lakes Overview

The nation's “fourth seacoast” ...

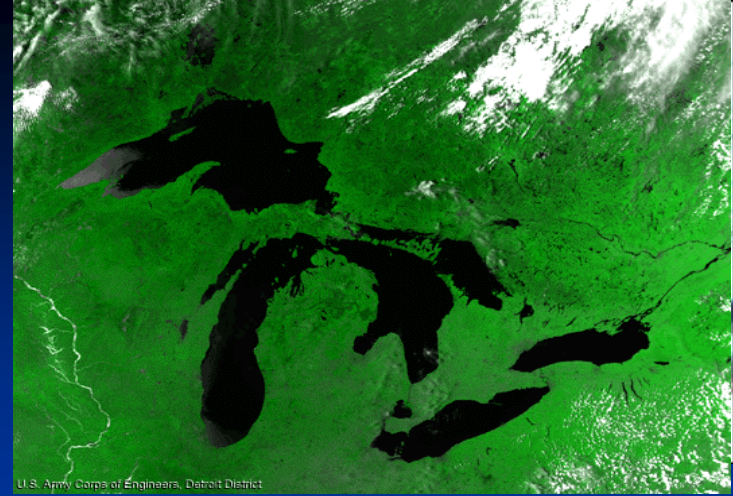
The Great Lakes shoreline is over  
10,000 miles long

The U.S. Great Lakes Shoreline  
is over 4,500 miles long

Longer than the U.S. East Coast  
and  
Gulf Coast

COMBINED

# Great Lakes Ecosystem

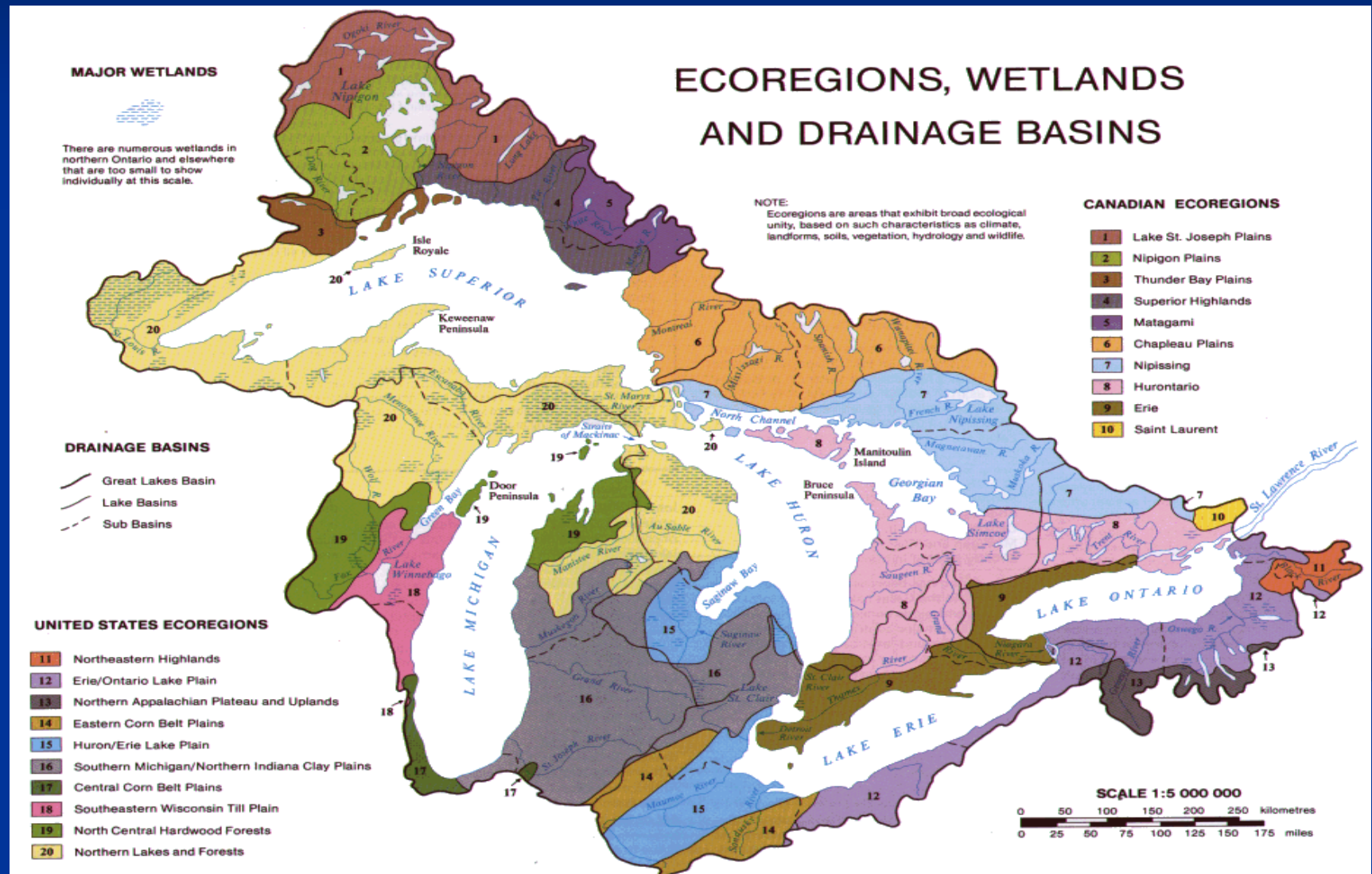


No shortage of ...

significant fish and wildlife resources

... or significant resource issues

# Globally Significant Natural Habitats





# Great Lakes Ecosystem

Includes over 35,000 islands. The largest freshwater system on earth...



Manitoulin Island is the world's largest freshwater island

# World's largest collection of freshwater coastal sand dunes



# Great Lakes Ecosystem

Estimated 300,000 acres of coastal wetlands



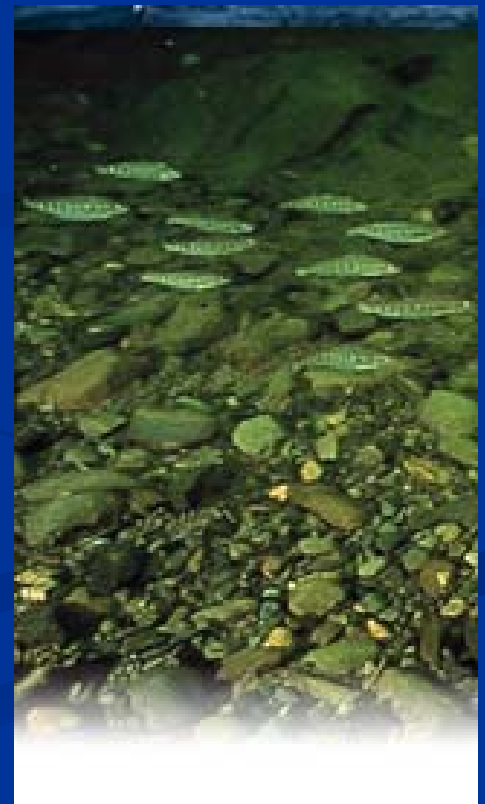
U.S. Army Corps of Engineers, Detroit District

95% of earth's Alvars  
... home to hardy, globally rare  
plant and animal species

# The Great Lakes supports many fish and wildlife species of concern

Lake sturgeon, lake trout, whitefish, walleye, landlocked Atlantic salmon, and associated forage fish species.

Native mussels.





# The Great Lakes supports many fish and wildlife species of concern

Critical breeding, feeding, resting areas, as well as migration corridors for ...

waterfowl, colonial nesting birds, neotropical migrants, and many other migratory birds.

31 species of migratory non-game birds of management concern to the Service occur in this ecosystem







## Great Lakes Ecosystem

No shortage of significant fish and wildlife resources

... or significant resource issues

The Great Lakes support a  
\$1 billion – plus recreational  
fishing industry

# Stressors to the Great Lakes Ecosystem...

- Toxic contaminants ...  
sediments and water  
column
- Pathogens
- Invasive species
- Loss of habitat



# About our Team ...



# Great Lakes Basin

## ECOSYSTEM TEAM

Composed of 43  
U. S. Fish and Wildlife  
Service Field Stations  
in the Great Lakes Basin

Representing a range of  
Service Programs ...

Including:

Private Lands, Fisheries,  
National Wildlife  
Refuges, Migratory Birds,  
Ecological Services and Law  
Enforcement.



Gold - Ecological Services Offices  
(ES)

Red - National Wildlife Refuge  
(NWR)

Blue - National Fish Hatchery  
(NFH) or  
Fishery Resource Office (FRO)

White - Law Enforcement (LE)

# *Working Cross Program and Cross Regions in Partnership efforts...*

## *Two Nations, Two Regions, Eight States, Two Provinces...*

*Working with others to conserve , protect, and  
enhance, fish, wildlife, and plants and their habitats  
for the continuing benefit to the American people.*

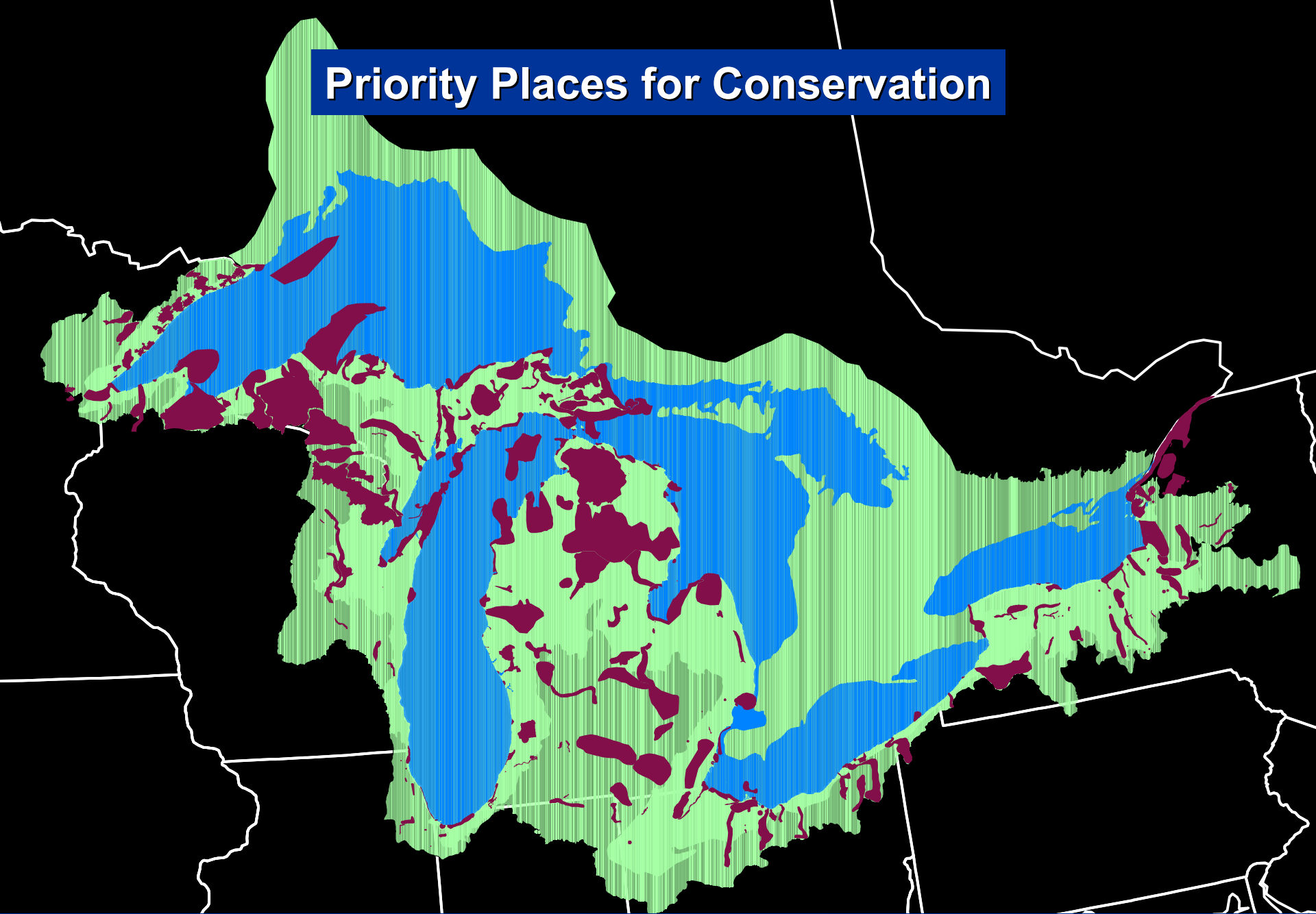


*Great Lakes Basin*  
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# Priority Places for Conservation





## TEAM PRIORITIES

- Lake Sturgeon Restoration and Fish Passage
- Great Lakes Islands Conservation
- Geographic Information & Decision Support System
- Outreach
- Endangered Species
- Invasive Species
- Migratory Birds
- Coastal Habitat Restoration

# TEAM PRIORITIES

Team decided to focus on two Team Priorities to make progress and demonstrate success:

- Lake Sturgeon
- Islands

We also formed a Work Group to determine how to engage in GIS on a Great Lakes Ecosystem Basis to support these Team Priorities



# Restoration of Lake Sturgeon Basinwide - Objectives ...

- Population Assessment
- Assessment of genetic makeup of various stocks
- Development and implementation of recovery plans
- Development of fish passage technology
- Identify, coordinate, and take actions with partners



# Conservation of Great Lakes Islands

## Objectives ...

- Recognize the importance of islands to wildlife, particularly migratory birds, fish, and endangered species
- Complete an overall assessment of the islands for protection and restoration efforts



# Great Lakes Geographic Information Systems and Decision Support Objectives...

- To provide geo-spatial data to assist management efforts in the Great Lakes Basin at many scales ranging from small localized places to large landscape level assessments
- Provide managers and other decision makers with geo-spatial information needed to make sound resource management decisions

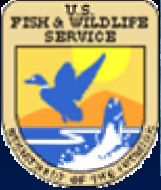
# *Great Lakes Basin*

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## TEAM SUCCESSES







# *Great Lakes Basin*

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## LAKE STURGEON COMMITTEE



- Commercial Fishers Monitoring Assessment Program
- Brochure "Lake Sturgeon: Giant of the Great Lakes"



# Great Lakes Basin ECOSYSTEM TEAM



## LAKE STURGEON COMMITTEE



- A web-based lake sturgeon database and associated GIS maps
- Great Lakes lake sturgeon website site consolidating information from more than 26 contributing partners
- Progress on standardized genetic assessment of lake sturgeon, coordination of successful basinwide genetics workshop





# *Great Lakes Basin* E C O S Y S T E M T E A M



## GREAT LAKES ISLANDS COMMITTEE

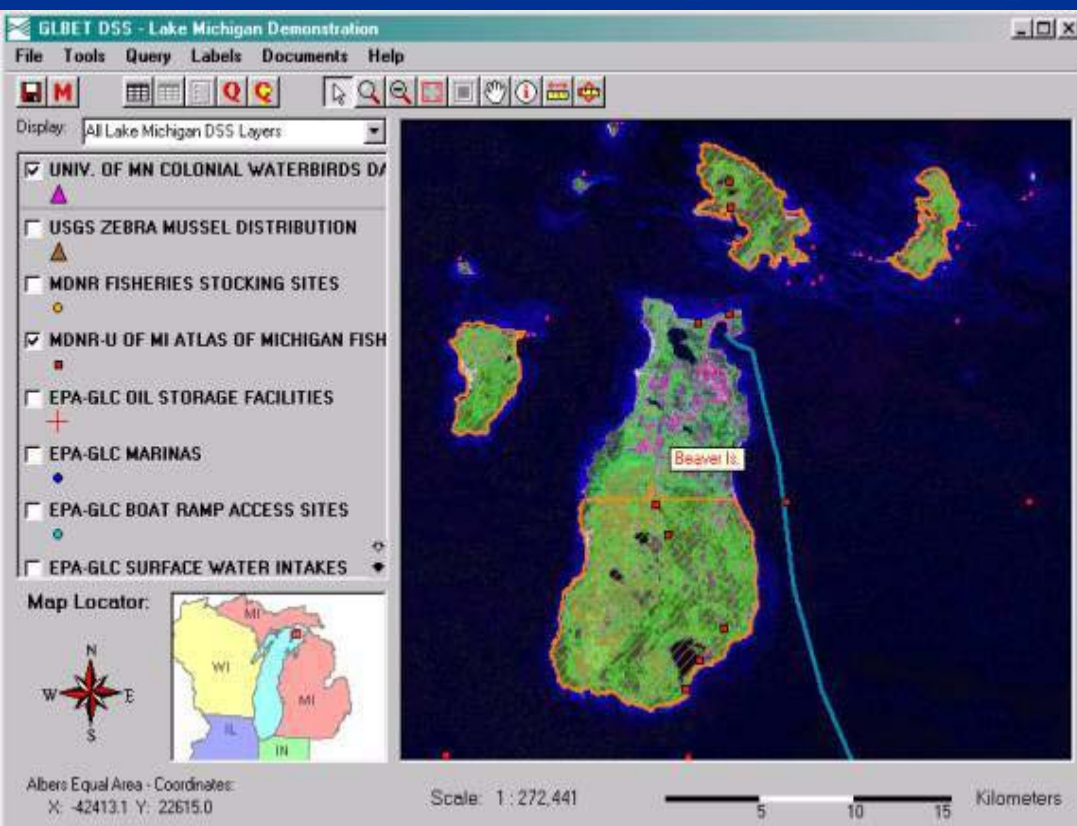
- Drafted Great Lakes Islands Conservation Strategic Plan
- Developed Great Lakes Island Assessment/Inventory Checklist
- Secured Team Kitty funds to conduct a predator control project to help piping plover
- Built interest and secured funding for Refuges to purchase new boats capable of safely visiting islands within the Great Lakes
- Secured GLNPO Funding to support December Island Workshop





# **GLBET GIS/DSS Core Group**

Status Report, Accomplishments, and Next Steps



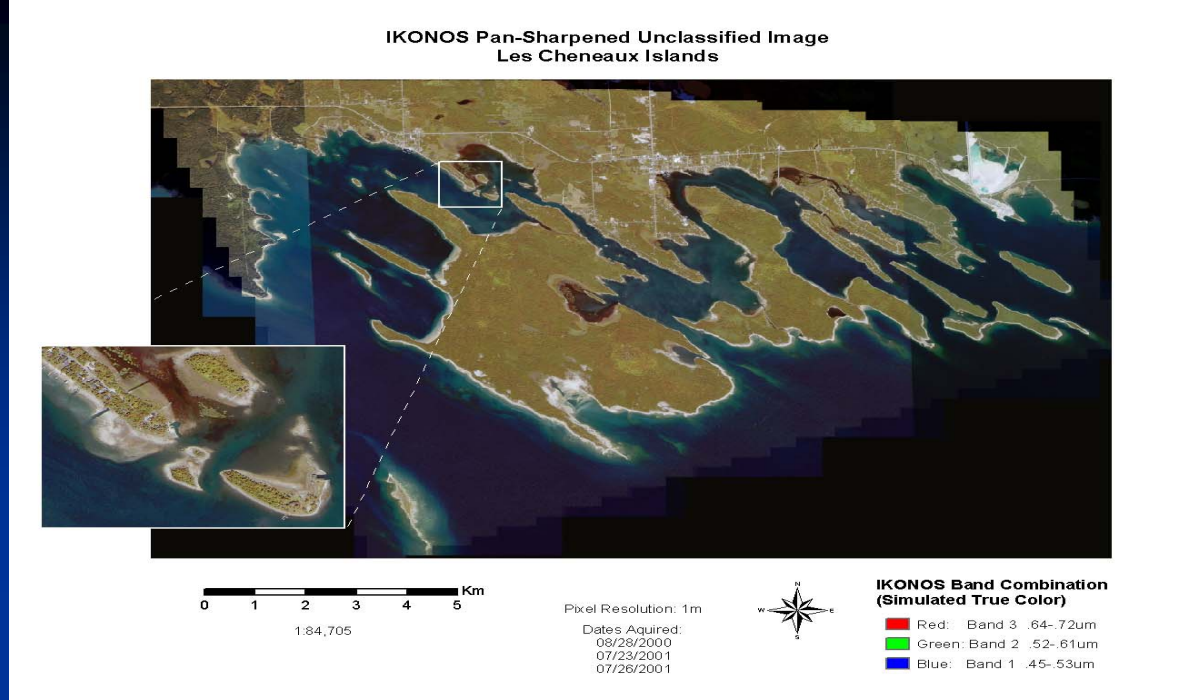
**Completed Great Lakes GIS  
Strategic Plan &  
Implementation  
Recommendations**

**Completed Great Lakes  
Islands GIS/DSS  
Demonstration**

**GLC Team Intranet Web Site**

**Strong Team, Regional, and  
Partner Support**





## USGS Great Lake Science Center Partnership In Support of our GIS/DSS Committee

- Mapping Sensitive Habitats on Great Lakes Islands with Multispectral Satellite Imagery
- \$48.5 K - Eastern Region Partnership Integrated Science Funds

# OUTDOORAMA EDUCATION CENTER



# OUTREACH COMMITTEE SUCCESSIONS

- Team Web Site Updated ... Improved!
- Progress Made on Service Great Lakes Video
- Team Display Improved ... Utilized
- Accomplishment Reports/News Releases
- Initiated Model Outreach/Communications Plan for Conservation of Great Lakes Islands – can be used as model for other activities, “Silver Anvil Award”, secured Dr. Darryl Armstrong donated services for one year.



# **Great Lakes Water Quality Agreement**

**As amended by protocol  
Signed November 18, 1987**

# Overall Purpose of Great Lakes Water Quality Agreement



**“ . . . to restore and maintain the chemical, physical, and biological integrity of the waters of the Great Lakes Basin Ecosystem.”**



# Great Lakes Water Quality Agreement (1987)

Included provisions for authorization of  
GLNPO



# Lots of Great Lakes Programs Opportunities

- Great Lakes Water Quality Agreement: SOLEC, LaMPs, RAP's (AOC's); GLNPO
- Coastal Zone Management
- **Regional/Major Watershed Organizations**
- Midwest Natural Resources Directors Group
- International Joint Commission
- Council of Great Lakes Governors
- Great Lakes Commission
- Great Lakes Fishery Commission
- Northeast-Midwest Institute – Great Lakes Task Force
- Great Lakes Research Consortium
- National Wildlife Federation Great Lakes Office
- Lake Michigan Federation
- Great Lakes United
- Council of Great Lakes Industries
- The Nature Conservancy Great Lakes Program
- Great Lakes Sea Grant Institutions
- Great Lakes Dredge Team - Binational

# TWO MAJOR PARTNERSHIP INITIATIVES FOR MEASUREMENT OF PERFORMANCE RESULTS

- Great Lakes State of the Lakes Ecosystem Conference Ecosystem Indicators
- The Great Lakes Strategy

# What is SOLEC?

- State of the Lakes  
Ecosystem Conference
- Biennial report on progress toward meeting goals of the Great Lakes Water Quality Agreement
- Target Audience: environmental managers, decision makers, upper administration, public



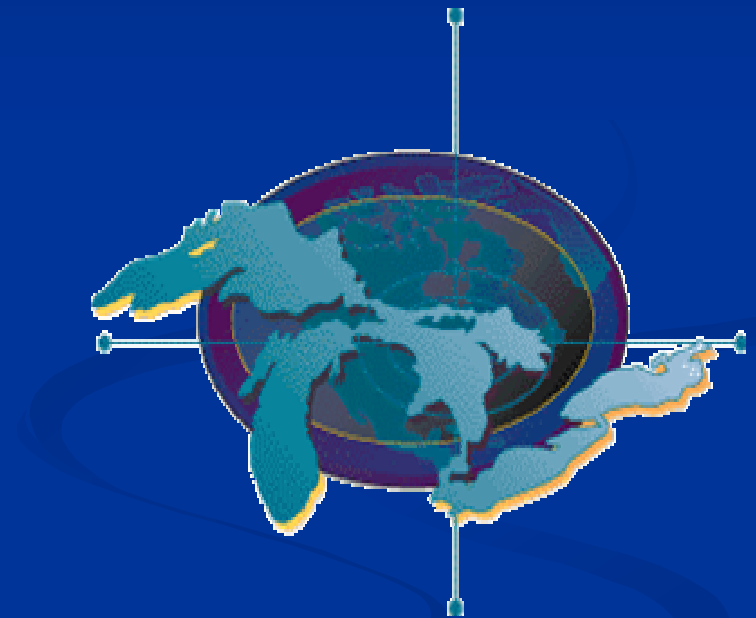


# SOLEC OBJECTIVES

- Assess the state of the Great Lakes ecosystem based on accepted indicators
- Strengthen decision making and management
- Inform local decision makers of Great Lakes environmental issues
- Provide forum for communication and networking among all stakeholders

# GLBET ENGAGEMENT IN SOLEC INDICATOR PROCESS

- Formed GLBET SOLEC Indicators Work Group to determine if and how to best engage the Team, and make recommendations for the Team's consideration.
- Reviewed all proposed Indicators, identified those indicators the Service/Team should take lead on or participate in a coordination role.





# GLBET ENGAGEMENT IN SOLEC INDICATOR PROCESS

- Team SOLEC Indicator Work Group developed proposal to engage in a subset of the identified priority indicators as a Demonstration Project ... Team endorsed plan



# GLBET ENGAGEMENT IN SOLEC INDICATOR PROCESS

- Team Members volunteered to take lead, and to coordinate and author the SOLEC Indicator Reports for: Bald eagles, Lake Sturgeon, Lake Trout, Islands, and Hexagenia (GLSC)
- In addition Team members are active participants in the Great Lakes Coastal Wetland Consortium, and GLFC Lead Sea Lamprey Indicators

# GLBET ENGAGEMENT IN SOLEC INDICATOR PROCESS

- Authored papers, made presentations, and lead working sessions at SOLEConferences
- Participated in Expert Panels and Work Groups to identify, select, and develop SOLEC Indicators

# U.S. POLICY COMMITTEE GREAT LAKES STRATEGY

The Service is a signatory and full partner for the U.S. Policy Committee's new plan to protect and restore the Great Lakes; Great Lakes Strategy 2002 - A Plan for the New Millennium (GLS) The GLS contains 126 collective goals and priorities that will restore and protect the Great Lakes.

# U.S. POLICY COMMITTEE GREAT LAKES STRATEGY

The Service - Great Lakes Basin Ecosystem Team was specifically identified as the lead for the implementation responsibility, tracking, and deliverables for several of the GLS goals and actions.

# GREAT LAKES STRATEGY



These include our Team priorities of Great Lakes Island Conservation and Lake Sturgeon Restoration, Great Lakes Migratory Bird Stopover Sites, National Wildlife Refuges Invasive Species Control Demonstration Projects, Invasive Species, State of the Lakes Ecosystem Conference Indicators Initiative, Public Involvement, and Coastal Wetlands

# GREAT LAKES STRATEGY

## EXAMPLE OF RECENT OPPORTUNITY

### DEFINITIONS:

(2) REFUGE COMPLEX- *The term 'Refuge Complex' means the Ottawa National Wildlife Refuge Complex and the lands and waters in the complex, as described in the document entitled 'The Comprehensive Conservation Plan for the Ottawa National Wildlife Refuge Complex' and dated September 22, 2000, including--*

*(A) the Ottawa National Wildlife Refuge, established by the Secretary in accordance with the Migratory Bird Conservation Act (16 U.S.C. 715 et seq.);*

*(B) the West Sister Island National Wildlife Refuge established by Executive Order No. 7937, dated August 2, 1937; and*

*(C) the Cedar Point National Wildlife Refuge established by the Secretary in accordance with the Migratory Bird Conservation Act (16 U.S.C. 715 et seq.).*



# OPPORTUNITY REALIZED

*(4) to advance the collective goals and priorities that--*

*(A) were established in the report entitled 'Great Lakes Strategy 2002 -A Plan for the New Millennium', developed by the United States Policy Committee, comprised of Federal agencies (including the United States Fish and Wildlife Service, the National Oceanic and Atmospheric Administration, the United States Geological Survey, the Forest Service, and the Great Lakes Fishery Commission) and State governments and tribal governments in the Great Lakes basin; and*

*(B) include the goals of cooperating to protect and restore the chemical, physical, and biological integrity of the Great Lakes basin ecosystem.*

# NRDA's – Great Lakes Legacy Act

## PRESIDENT'S FY 2004 BUDGET TO DOUBLE FUNDING FOR GREAT LAKES ACTIVITIES

- Nearly \$34 Million to improve Great Lakes water quality
- \$15 Million to support Great Lakes Legacy Act to cleanup contaminated sediments
- GLNPO to receive \$15.4 Million – LaMPs \$2.7 Million
- Invasive Species Research funded at \$500, 000

# ENERGY & SYNERGY

Great Lakes Basin Ecosystem Team's Two Workshops  
in December, very successful!

Partnerships strengthened, commitment for actions  
made ...



# GREAT LAKES ISLANDS COASTAL WORKSHOP

December 10 – 12, 2002

Chicago



## GREAT LAKES ISLANDS COASTAL WORKSHOP

### ISLANDS WORKSHOP PRODUCTS

- 1) Framework for a model strategy for Conservation of Great Lakes Islands at both landscape and local levels, including draft GLBET Great Lakes Islands Survey Protocols
- 2) A Great Lakes Island and Coastal Habitat Conservation Ranking/prioritization system
- 3) Updating of SOLEC Islands Indicator Report, including a listing/inventory of Great Lakes Islands currently under conservation protection through inclusion in NWR's, or other means; islands known to be in need of priority conservation efforts



## GREAT LAKES ISLANDS COASTAL WORKSHOP

### ISLANDS WORKSHOP PRODUCTS

- 4) Inventory the databases available for island conservation - concurrence on action plan for repository/access of this information; Preliminary Guidelines for development of a classification system for nearshore coastal habitats of the Great Lakes and inventory of the databases available for coastal GAP analysis
- 5) Plan to improve the utility of the DSS - including demonstration of DSS, hands on opportunities provided, follow up training and utilization opportunities identified
- 6) Development of a communications campaign/plan for Great Lakes island conservation as a product and/or development of a network of communications specialists



# Great Lakes Fishery Trust Lake Sturgeon Workshop



- The GLBET Lake Sturgeon Committee worked in FY2002 to develop a Great Lakes basin wide coordination meeting. Funds for the meeting were provided by the Great Lakes Fishery Trust. The purpose for the meeting is to provide an annual forum to foster communication and exchange of information relating to the study, management, and restoration of lake sturgeon in the Great Lakes basin, to address priority research and assessment needs, and to address selected emerging issues



# ENERGY AND SYNERGY

- Follow up commitments for actions...
  - Grant “Swat Teams” formed ...
  - Strong support pledged for Detroit River IWR,
- Strong binational interest in supporting proposed Lake Erie IWR, and to pursue additional IWR's in Thousand Island area of eastern Lake Ontario, and along Georgian Bay in northern Lake Huron

# GLBET Organization of Activities

- Committees for each of our Team Priorities

Where the most gets done, where most partners are active. Lots of communication, periodic conference calls, meetings, and field work.

- GLBET Executive Committee ...

Composed of Team Leader, Team Leader Elect, Past Team Leaders, Ecosystem Biologist, Committee Chairs, and members at large. Monthly conference calls, periodic meetings, lots of communication, planning.

# GLBET Organization of Activities

- Full Team Meetings ... twice per year.
- Address Team Priorities, Team Kitty, Service and External Funding Opportunities, Interactions with Programmatic Staff, and Partners

# R3 RMT – R5 REAT

- Conference Calls
- Meetings
- Presentations



# OUR NEXT TWO FULL TEAM MEETINGS TO BE HELD IN EACH OF OUR TWO REGIONAL OFFICES

APRIL 1 – 3, 2003 at the Minnesota Valley NWR

FALL 2003 in Hadley, Massachusetts

# Role & Added Value of the Great Lakes Basin Ecosystem Team

- The Team does not view itself as a “separate entity”.
- We believe our role is to serve our Programs and Stations, and the Service Mission on a landscape level in the Great Lakes
- We can and have served as a “point of contact”, and in a coordination role, between Regions, Stations, and with the many and varied partners.

# Increasing the Value of Our Team to Our Programs and Stations

- We would very much appreciate your thoughts, discussion, and input.
  - Anytime...
  - But particularly at our Team Meeting at Minnesota Valley NWR in April
- Team Action Plan Development – New Team Priority Initiatives/Actions
- NWR Bicentennial, Fisheries Vision, Migratory Bird Conservation Plans/Programs – Coastal Programs





# In closing ...

- We'd like to thank the Region 3 RMT for all the opportunities to interact, and your support
- We'd also like to thank Teresa Woods and all her staff Ecosystem Team Biologists for all their help and support

And in particular...

THANK YOU BILL HARTWIG!

We owe so much to you for your strong, innovative leadership and support!

We wish you all the best in your new position!

